



Yoga Can Reduce the Scale of Arthritis Pain in the Elderly at Pos Bindu, Tanah Sareal, Bogor

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Abstract Background : Arthritis almost happen in elder people, The main problem for elder with arthritis is joint pain. Pain could effect elderly physical function so elder people increase their dependency with their family and others. The treatment for this is meditation technique. one of meditation technique is yoga. By doing routine yoga, the joint pain would be decreased and the elder people could do activity normally. The purpose of this study is to identify the effect of yoga for reduction joint pain in older people with arthritis in Posbindu Kelurahan Tanah Sareal Bogor.

Method : This study use quasi experiment design with pre and post test design. There are thirty seven respondents participated this study. They did yoga exercise for nine weeks (nine times exercise). Pain is evaluated before and after study with Bourbanis pain scale.

Result : The finding of this study is yoga could effect significantly for reduction of arthritis joint pain in elder people (from mean of pain scale 7.46 to 2.89, $p < 0.000$).

Conclusios : Elder people could do Yoga for reduction of arthritis joint pain

Introduction

Arthritis is an inflammation of the joints characterized by swelling and pain and changes in the structure of musculoskeletal. Arthritis is divided into two parts, namely rheumatoid arthritis and osteo arthritis. A person can suffer from osteoarthritis or rheumatoid arthritis. Gout arthritis is inflammation of the joints caused by uric acid buildup. . [1]

According to WHO (2010) in [3] arthritis sufferers number currently in the world is more than 355 peoples. This means that 1 of 6 peoples on the earth suffer from arthritis. According to Zeng Q.Y in [3] ,

the prevalence of rheumatic pain in Indonesiareach 23.5% - 31.3%. in 2012 reported on Tanah Sareal Health Center in Bogor City, arthritis sufferers aged 45 - 54 years were 124 people, ages 55 - 59 as many as 50 peoples, ages 60 -69 years as many as 20 peoples, aged over 70 years as many as 6 peoples.

The main problem in elderly arthritis sufferers is pain caused by inflammation in joint areas. Many of elderly people who still need help in fulfilling their daily needs, thus bringing a worse impact is the increasing dependence of the elderly on family or other people. To reduce the pain, it is necessary to do pharmacologaric management by administering drugs and

nonpharmacologic methods with the aim of reducing the side effects of anti-pain medications.[3] Nonpharmacologic interventions to reduce pain in arthritis include progressive relaxation, meditation, visualization and distraction. One of the many meditation techniques developed today is Yoga practice. Besides yoga, elderly gymnastics can also deal with pain in people with Arthritis.[3]

With yoga the elderly who suffer from arthritis will experience physical improvement, can prevent joint damage, help strengthen and repair joints so that joint function becomes normal and does not become stiff. Besides yoga can also reduce uric acid levels in the blood.. [6] Elderly people who suffer from arthritis by doing yoga regularly will reduce pain in the joints, so that they can move normally and will feel a more comfortable state, the elderly can take care of themselves and reduce levels dependence on others. Research conducted by [10] about the effects of yoga on rheumatoid arthritis the result is that there is a yoga effect on the reduction in pain intensity with ($P = 0.003$, $\alpha = 0.005$).

Based on the description above, the researchers were interested in conducting research on the influence of yoga on arthritis pain in the elderly at PosBindu, Tanah Sareal, Bogor.

Research purposes

1. General Purpose

The general objective of this study was to determine the effect of yoga on arthritis pain in the elderly at PosBindu, Bogor Sareal in 2013

2. Specific Objectives:

- a. Knowledge of the scale of pain before yoga in the elderly with arthritis in PosBindu, Bogor Sareal in 2013
- b. Knowing the scale of pain after yoga in the elderly with arthritis in PosBindu, Bogor Sareal in 2013.
- c. Knowing the difference in the scale of pain between before and after yoga in the elderly with arthritis in PosBindu, Bogor Sareal in 2013.

Benefits of research

The benefits of this research are:

1. The results of the research can be useful as information for the elderly about the importance of doing yoga practice regularly to reduce pain due to arthritis.
2. Increasing motivation in the elderly with arthritis to take part in a yoga practice program regularly.
3. Give input to the program manager (health center) to improve the implementation of yoga practice regularly.

Research hypothesis

The research hypothesis is that yoga can reduce the scale of pain in the elderly with arthritis.

Methodology

This research is a quantitative research using a quasi experimental method with a pre test - post test group design approach. This study aims to identify the effect of one treatment on effectsSend feedbackHistorySavedCommunitytreatment, namely yoga practice on arthritis pain in the elderly. The minimum number of samples is 36 respondents.

The researcher screened respondents according to the inclusion criteria. From the results of screening obtained 37 respondents. The researcher then explained about yoga gymnastic

procedures, regarding the goals, benefits, risks that occur, and the responsibility of the researcher in the event of unwanted risks. In yoga this is a possible risk that occurs is pain or aches in the body and joints of the hands and feet because it is not used to doing yoga. If the respondent feels unable to continue yoga, then the respondent can resign from the study and the researcher will be responsible by financing the treatment carried out by the respondent if needed.

After getting an explanation, the elderly will sign the consent informed consent sheet, then the patient measures the pain scale, the data obtained is then recorded. From the results of a 10-week yoga practice agreement. Yoga practice is guided by a yoga instructor and is assisted by [3] yoga-trained assistants.

Yoga is carried out for approximately 30 to 45 minutes. Yoga consists of warm-up exercises aimed at preparing physically for yoga poses, exercises consisting of eye movements, neck of shoulders and back, exercises are carried out for 5 minutes. Then rest 1-2 minutes. Exercise The breathing technique for beginners (Pranayama), carried out with Easy poses which aims to teach correct breathing methods especially in carrying out yoga movements. Performed in 5 minutes. Then rest 1-2 minutes. The movement of the core (the incorporation of yoga (asana) movements with breathing techniques (Pranayama) aims to strengthen the muscles and joints, movements consisting of movements of the hands, feet, shoulders, neck and head in an extension and flexion movement while doing breathing. done for 30 minutes, then rest for 1-2 minutes, yoga can be closed with breathing techniques (Pranayama), for 5 minutes.

Results

Univariate Analysis

a. Age

From the results of the data analysis the average age of the respondents was 56.65 years, with a standard deviation of 10.13. the youngest age is 45 years and the oldest age is 79 years. From the results of interval estimation, it can be concluded that 95% are believed that the average age of the respondents is between 53.27 and 60.03

b. Scale of Pain Before Yoga

Fig 1.

Distribution of Pain Scale Before Yoga
AtPosBindu, Tanah Sareal, Bogor,
August - October 2013

Variabel	Mean	SD	Min - MAx	95% CI
Scale of pain before yoga	7.46	1.01	5 – 9	7.1 – 7.8

The results of the analysis get the average pain scale before yoga is 7.46, with a standard deviation of 1.016. The lowest pain scale is 5 and highest 9. From the interval estimation results it can be concluded that 95% are believed to be the average pain scale of the elderly with arthritis before yoga is between 7.12 to 7.86.

c. Scale of Pain After Yoga

Fig 2

Scale of Pain Distribution After Yoga
AtPosBindu, Tanah Sareal, Bogor,
August - October 2013

Variabel	Mean	SD	Min - Max	95% CI
Scale of pain after yoga	2.89	0.84	2 – 5	2.61-3.17

The results of the analysis found that the average pain scale after yoga is 2.89, with a standard deviation of 0.843. The lowest pain scale is 2 and the highest.[5] From the results of the interval estimation it can be concluded that 95% are believed that the average pain scale of the elderly with arthritis after yoga is between 2.61 to 3.17

Bivariate Analysis

The results of bivariate analysis in this study are shown in the table below. Effects of Yoga on pain in the elderly with arthritis

Fig 3
Effects of Yoga on pain in the elderly with arthritis
At PosBindu, Tanah Sareal, Bogor,
August - October 2013

Variabel	Mean	SD	Difference		
			Mean	SD	P Value
Pain Scale					
Before	7.46	1.02	4.56	1.09	0.000
After	2.89	0.84			

The average pain scale at the start of yoga practice is 7.46 with a standard deviation of 1.016. At the end of yoga the average pain scale is 2.89 with a standard deviation of 0.843. It was seen that the average difference in the scale of pain at the beginning and end of yoga was 4,568 with a standard deviation of 1,094. The results of statistical tests obtained a value of $P = 0,000$, $\alpha = 0.05$, so it can be analyzed that there is a significant difference between the quality of the pain scale of the elderly with arthritis before and after yoga.

Discussion

1. Univariate Analysis

From the data obtained, the average age of the respondent was 56.65 years with the youngest age of 45 years and the oldest age of 79 years. This is in accordance with the WHO survey in Java found that arthritis / rheumatism occupies.

first place (49%) from the pattern of elderly disease. According to a 2012 report on the Tanah Sareal Health Center in Bogor City, arthritis sufferers aged 55-59 were 50 people. Arthritis is more common in women than men. [3] This is in accordance with the data obtained that respondents who participated in yoga were all women as many as 37 people.

In this study, the age of 45 to 59 years was included in the inclusion criteria because it was in accordance with data from Tanah Sareal Health Center in 2012 who suffered from arthritis grouped from the age of 45 years, namely 45 - 54 years old as many as 124 people, aged 55-59 as many 50 people, aged 60 -69 years, 20 people, aged over 70 years, [6] people. There are 150 elderly people in Tanah Sareal sub-district, not all elderly members are middle-aged (45-59 years), out of 150 people not all suffer from arthritis, especially in terms of the number of samples of at least middle-aged adults taken as respondents.

The average pain scale in the elderly with arthritis before yoga 7.46 which according to the Bourbanis scale means severe pain is still controlled. The main problem in elderly arthritis sufferers is pain caused by inflammation in the joint area.2 Research conducted 3 states that 20 out of 50 elderly people who do not do elderly gymnastics will experience disturbed pain and activity. In

accordance with research [10] on the effects of yoga on arthritis pain that the scale of pain before yoga is an average of 4.39 which means moderate pain.

The average pain scale in the elderly with arthritis after yoga is 2.89 which according to the boubanis scale means mild pain. This is in line with research [3] which states that 30 out of 50 elderly who are active in elderly exercise say joint pain is reduced and activities can be done more effectively. The data above is in line with 10 studies of the effects of yoga on arthritis pain that the average pain scale after yoga is 2.41 which means mild pain.

2. Bivariate Analysis

Effects of yoga on arthritis pain in the elderly. The results showed that yoga had an effect on arthritis pain in the elderly. The results of the statistical analysis showed that the average scale of pain before yoga was 7.46 while after yoga practice it was 2.89, meaning that there was a decrease in the pain scale value of 61.2% after yoga. The results of statistical tests show that yoga has a significant effect in reducing arthritis pain in the elderly ($P = 0,000$, $\alpha = 0.05$).

In this study yoga is carried out more on breathing exercises (pranyama) and relaxation from the position (asanas). The yoga movement carried out by the elderly is only a slight movement. This yoga is carried out for 9 times the plan is 10 times. The implementation is carried out continuously every once a week which is every Friday, without interruption. According to [5] yoga that is carried out continuously or continuously will produce a better effect in reducing joint pain in arthritis. This is evidenced by the results of this study with 9 times of yoga carried out continuously can reduce pain in the elderly with arthritis.

The results of the above research are also in accordance with the theory which states that nonpharmacologic interventions to reduce pain in arthritis include progressive relaxation, meditation, visualization and distraction. Pain can be responsive to nonpharmacologic interventions.[2] Nonpharmacologic therapy that is suitable for Arthritis sufferers in the elderly is a meditation technique. One of the many meditation techniques developed today is Yoga practice. Besides yoga, elderly gymnastics can also deal with pain in people with Arthritis

Yoga has spiritual roots with the main goal of helping individuals to realize true happiness, freedom and enlightenment. Besides that yoga also has additional goals such as improving physical health and healthy mental and emotional balance. Physically yoga can increase muscle strength, increase flexibility, increase respiratory resistance, and encourage balance. Yoga is also associated with adding energy and reducing pain and pain. In conclusion, yoga is associated with many physical and psychological benefits that may specifically help the life of someone who is chronically ill.

With yoga the elderly who suffer from arthritis will experience physical improvement, can prevent joint damage, help strengthen and repair joints so that joint function becomes normal and does not become stiff. Besides yoga can also reduce uric acid levels in the blood.6 Elderly people who suffer from arthritis by doing yoga regularly will reduce pain in the joints, so that they can move normally and will feel a more comfortable state, the elderly can take care of themselves and reduce levels dependence on others.

Some studies have proven that yoga practice is a safe and effective way to increase physical activity and can also provide psychological benefits for people with arthritis. One study has looked at the effect of yoga on the hands of patients with osteoarthritis. The yoga program that is run for 10 weeks can actually reduce inflammation, swelling and pain in the joints of the fingers so that the strength increases and the function of the hands can be increased.⁶ Meanwhile, other studies have focused on the effect of yoga on the treatment of osteoarthritis in the knee. It turned out that patients who received yoga instructions for 8 weeks showed improvements in the level of pain and swelling.⁷ Research conducted by [3] about the influence of elderly gymnastics on pain in the supporters of rheumatoid arthritis, stated that there were significant differences in the level of pain felt by rheumatoid arthritis patients before and after elderly gymnastics, where the elderly gymnastics provided is chi chi exercise which is almost the same as yoga. Research conducted by RB. Bhandari (2009) about the effects of yoga on rheumatoid arthritis results are present the influence of yoga on decreasing pain intensity with ($P = 0.003$, $\alpha = 0.005$). [10]

Conclusion

1. The average age of the respondents is 56.65 years, the youngest age is 45 years and the oldest is 79 years
2. The average pain scale of the elderly with arthritis before yoga is 7.46 with SD 1.016
3. The average pain scale of the elderly with arthritis after yoga is 2.89 with SD 0.843
4. There are differences in the scale of pain before and after yoga with

an average difference of 4,568 ($P = 0,000$, $\alpha = 0,05$). Thus it can be concluded that yoga has a significant effect on reducing pain in the elderly with arthritis

Suggestion

1. For health center

This yoga activity is expected to be a program of structured activities in the health center, especially for the Posbindu activity program.

2. For Respondents

The elderly at Posbindu continue to actively participate in yoga both at Posbindu and at home to improve their daily activities

3. For further researchers

To be studied about the influence of yoga on the range of motion (ROM) of the elderly with arthritis.

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